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UNIT 6 LESSON 4

**AIM**: SWBAT determine the part, whole, or percent

**THINK ABOUT IT!**

Solve the following percent problems by writing an equation from the corresponding double number line.

45 is 15% of what whole?



30 is what percent of 150?



Test the Conjecture #1) In Mr. Wilson’s class, 40% of the students are boys. If there are 12 boys in the class, how many total students are in the class?

Test the Conjecture #2) Rommi played a game of marbles with his friend. He started with 20 marbles but lost 2 by the end. What percentage of marbles that Rommi started with did he end with?

Conjecture

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**PARTNER PRACTICE**

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| *Bachelor Level* |

For questions 1-3, annotate the questions with part, whole, and percent. Solve the problem using the percent equation.

1. What is 30% of 90?
2. 25 is 80% of what number?
3. 15 is what percent of 60?

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| *Master Level* |

1. Matthew’s total points scored in basketball this season were 𝟏𝟔𝟖 points. He scored 𝟏𝟒𝟕 of those points in the regular season and the rest were scored in his only playoff game. What percent of his total points did he score in the playoff game?
2. About 42% of a paint mix is white. If 8.4 gallons of the total amount of paint ordered are white, how many total gallons were ordered?

**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

For questions 1-3, annotate the problem with part, whole, and percent. Solve the problem using the percent equation.

1. 125% of 10 represents a certain number. What is that number?
2. What percent of 80 is 10?
3. If a number is 75% of 300, what is that number?

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| *Master Level* |

1. When practicing her free throws at basketball yesterday, Shamaya made 12 out of her 30 shots. Which statements below are true? Select all that apply.

a) We can find the percent of shots that she made by dividing 12 by 30

b) We can find the percent of shots that she made by dividing 12 by 30

c) She made 0.4% of shots

d) She made 40% of shots

e) She made 60% of shots

f) She missed 60% of shots

1. The Celtics played 25 games in the month of March this year. 60% of those games were home games.

Part A: Which expression(s) below could you use to solve for the number of home games that they played? Select all that apply.

a) $\frac{60}{100}=\frac{25}{x}$

b) 0.6 (25) = x

c) $\frac{60}{100}=\frac{x}{25}$

d) $x=\frac{25}{0.6}$

Part B: How many home games did the Celtics play in March?

1. Tom Brady threw 52 completions in the Super Bowl XLL loss to the New York Giants. His completion rate of completed passes to total passes was 65%. How many total passes did Brady attempt?
2. There are 70 scholars in the senior class. The girls make up 40% of the total senior class. How many **boys** are there?

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| *PhD Level* |

1. Giana had $400 in her bank account on Monday. By Tuesday, her account had increased 15%.

Step A: What is the amount of money in her account on Tuesday?

Step B: Determine the percent of $400 that the final account balance was on Tuesday.

Step C: Rewrite the problem using the percent that you found in part B.

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**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. A tank that is 40% full contains 648 gallons of water.

Part A: Decide if you can use each equation below to solve for the maximum capacity of the tank. Choose “yes” or “no.”

|  |  |  |
| --- | --- | --- |
| Equation | Yes | No |
| $$\frac{40}{100}=\frac{648}{p}$$ |  |  |
| $$40=\frac{p}{648}$$ |  |  |
| $$\frac{40}{100}=\frac{p}{648}$$ |  |  |
| $$\frac{40}{100}p=648$$ |  |  |
| $$648\left(.4\right)=p$$ |  |  |
| $$\frac{648}{\left(.4\right)}=p$$ |  |  |

 Part B: What is the maximum capacity of the tank?

2. Jenny’s great-grandmother is 90 years old. Jenny is 12 years old. What percent of Jenny’s great-grandmother’s age is Jenny’s age rounded to the nearest tenth of a percent?